

RURAL DISTRICT COUNCIL OF
ST. AUSTELL.

REPORT

OF THE
MEDICAL OFFICER OF HEALTH
FOR THE YEAR
1920.

ST. AUSTELL:
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To the Chairman and Members of the St. Austell Rural District Council.

Mr. Chairman, Miss Roberts and Gentlemen,

I beg to submit my Report for 1920. As you will see there are many important and urgent schemes which will require your closest and practical attention.

I feel sure that but for the great difficulties both financial and otherwise, many of these schemes would have materialised. I trust that more normal conditions will see the removal of these present obstacles.

Your obedient Servant,

E. G. ANDREW.

St. Austell

June 1921.

RURAL DISTRICT COUNCIL OF
ST. AUSTELL.

ANNUAL REPORT
OF THE
Medical Officer of Health
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PART I.

VITAL STATISTICS.

The Rural District of St. Austell is situated in the southern part of Mid Cornwall, being bounded on one side by the sea and on the other sides by the Rural districts of Truro, St. Columb, Bodmin and Liskeard. It includes fifteen parishes, covering an area of 56,333 acres and having a population according to the census of 1911 of 30,423. The Registrar General's estimate of the civil population for 1920 is 33,871, shewing an increase of 11·3 per cent.

The district is generally hilly with the exception of certain moorland areas and the climate rarely shews extremes, being generally warm and humid, with a prevalent south-west wind.

The main industries of the population are clay mining, agriculture and fishing. These occupations apparently have no marked detrimental effect on the public health.

The Rainfall for 1920.

The following statistics were kindly supplied from observations kept by Mr. W. M. Coode.

| | Inches. |
|-----------|---------|
| January | 7·25 |
| February | 1·10 |
| March | 4·58 |
| April | 5·34 |
| May | 2·55 |
| June | 2·94 |
| July | 5·45 |
| August | 1·30 |
| September | 3·82 |
| October | 7·14 |
| November | 2·65 |
| December | 5·25 |

Total 49·37. Rain fell on 214 days.

Total for year 1919 48·40 ins Rain fell on 194 days.

„ 1918 47·55 „ „ 217 „

Death-Rate.

The death-rate for 1920 on the preceding estimate of the population is 10·7 per thousand per annum. The rates for previous years were :

| | | |
|------|---|------|
| 1912 | - | 12·2 |
| 1913 | - | 13·5 |
| 1917 | - | 14·7 |
| 1919 | - | 11·7 |

The percentage of deaths under one year is the same as last year, namely 10·6 per cent. of the total deaths. Deaths occurring after 65 years, 42·1 of the whole number.

The chief causes of death were: Heart Diseases 58, Bronchial Diseases 60, Nephritis 16, Phthisis 32, Cancer 33, Congenital Debility and Premature Births 20.

Birth-Rate.

The number of births registered was 778, which gives a rate of 22·9 per thousand of the population, compared with 14·5 for 1919. The rate for England and Wales for 1920 was 25·4. The large increase of the birth-rate compared with 1919 is no doubt due to the ending of the Great War and an inflated prosperity.

Rates for previous years :—

| | | |
|------|---|------|
| 1912 | - | 21·4 |
| 1917 | - | 13·9 |
| 1918 | - | 13·4 |

Infantile Mortality.

Curiously forty-one deaths of children under one year were registered, giving an Infant Mortality rate per thousand births of 52·7, which compares with 90·0 for 1919. This is a very striking and satisfactory reduction, and in fact constitutes a record, the lowest previously recorded being 77 in 1912.

Seventeen of the deaths occurred within the first month and twenty-four in the next 11 months. No infants died from diarrhoea or enteritis. Premature births, debility, and marasmus claimed 39 per cent. of the total deaths.

Work at the Infant Welfare Centres has been carried on at St. Austell and St. Blazey. Mothers are instructed as to the well-being of their babies by the District Nurses and voluntary helpers. The medical men also give advice at stated times.

All births are now notified to the County Medical Officer of Health, who informs the health visitors and they then visit each home and advise mothers as to feeding, etc., they also report to the Medical Officer of Health any hygienic defects when found

The "Milk Order" for Expectant and Nursing mothers and children under 5 years has been carried out in conjunction with the County Medical Officer. About a dozen families have been relieved. The health visitor, as a rule, recommends the supply, and if after taking into account all the circumstances of the case, I consider it meets the standard laid down by the County Council, I have granted it.

PART II.

Infectious Diseases.

DIPHTHERIA.—During the year 56 cases were notified compared with 21 for 1919, of which 32 occurred between the ages of 15 and 25. Half the cases were reported from the rural parish of St. Austell. Of all cases 5 proved fatal, giving a death-rate of 8·9 per cent. compared with 11·6 per cent. for 1919.

SCARLET FEVER —The total number of cases notified was 46 compared with 41 for 1919. 37 cases were between the ages of 5 and 15. No deaths were reported. The largest number occurred in the parish of St. Dennis.

MEASLES.—The Ministry of Health cancelled the order for compulsory notification of measles on January 1st 1920, so that no accurate statistics are available. There was a wide-spread epidemic of this disease during the last quarter of the year, but only one fatal case was reported.

During the year the following Schools were closed for varying periods :—Meledor, Whitemoor and Mount Charles in the earlier part of the year when diphtheria and sore throats were

prevalent; Coombe was closed in March for Whooping Cough and Chicken Pox; during the last quarter Mount Charles, Carclaze and St. Stephens Infants' Schools for measles.

One case of Encephalitis Lethargica and one of Acute Poliomyelitis were notified. Death ensued in the former and occurred at St. Stephens, the latter occurred at St. Dennis.

MALARIA.—Only two cases of this disease were notified and the patients were both ex-Service men.

OPHTHALMIA NEONATORUM.—Four cases were notified, but no permanent defects resulted.

TYPHOID FEVER is practically non-existent in this district. One case was notified, but not proved by Widal's Reaction.

SMALL POX.—Although St. Austell population is more or less in touch with seaports, and a certain number of the inhabitants come from and go to distant lands, no case has occurred. I have been advised from time to time of people who have come to this district from boats where infection has broken out. It seems extraordinary that more use is not made of vaccination, when the risk is so infinitesimal if properly carried out.

Isolation Hospital.

Neither St. Austell Rural nor Urban Districts possess an Isolation Hospital. A site has been chosen and approved by the Ministry of Health, so that in the near future this great want will be supplied. This hospital will be under the control of both authorities. I hope that a disinfecter will be included which will meet the demands of the whole neighbourhood, so that clothes, etc., which are infected with lice and other parasites may be properly treated. At present there is no means of effectively disinfecting clothes or bedding.

Tuberculosis.

Twenty-two cases were notified of all forms, compared with 19 in 1919, of which 19 were pulmonary; 33 deaths were reported of which 26 were pulmonary. This gives a death-rate of $\cdot 97$ per thousand of the population, compared with $\cdot 85$ for 1919.

Death-rate—All forms of Tuberculosis.

| | | |
|------|---|------------|
| 1914 | - | 1·27 |
| 1918 | - | 1·55 |
| 1919 | - | $\cdot 85$ |
| 1920 | - | $\cdot 97$ |

There has been a serious concentration of Pulmonary Tuberculosis at Trewoon during 1919 and 1920, when seven deaths occurred, giving a death-rate for the Trewoon area of 5 per 1000 in 1919 and nearly 13 for 1920. The death-rate for Cornwall during 1919 was 1·42 per 1000. All the cases were females.

I visited all infected houses and noted that there was overcrowding in some; also that some were of the back to back type, with insufficient ventilation. The Dairies were inspected, some of them were in an excellent condition, a few very indifferent.

I wrote to Dr. Clark, the County M.O.H., and gave him details of my inspection and he wrote as follows :—

“ Thanks for sending plan for me to see; it is very interesting and I think bears out my suggestion that there have been cases of ‘ Massive Infection ’ of persons visiting or otherwise brought into contact with one or two cases of Tuberculosis of the lungs in a very infectious condition. I cannot think it is likely that it is due to infection from milk, especially as you state that some of the cases are

extremely ill and others have died. If you are not satisfied with the milk supply you could arrange for a Veterinary Surgeon to examine the Cows (The Infectious Disease (Prevention) Act, 1890, s. 4). I will see Dr. Roper and let you know what is best to be done."

Dr. Roper, Senior County Tuberculosis Officer, visited Trewoon with me, and came to the opinion that "the abnormal prevalency of tuberculosis at Trewoon was due to 'Massive Infection' by persons who were very infected."

I have visited nearly all cases of tuberculosis in the rural district, and I have been struck with the apathy with which tuberculosis is regarded in a great many cases, even by people in houses where cases are living or have died.

I think the services of the Health Visitor for tuberculosis should be utilised as much as possible.

The question of overcrowding is at present an extremely difficult problem and one that has close relationship to the spread of tubercular disease. All cases notified are supplied with leaflets, pointing out the most advantageous way of living, but I am afraid in many cases they are treated as so much waste paper.

Whenever it is known that an infected person leaves a house, and in every case where a death has been notified, disinfection is carried out.

Good work is being done at the St. Austell Dispensary and by the Tuberculosis Health Visitor.

The St. Austell Guardians have the use of six beds at Didworthy Sanatorium, and the County Council provide shelters for those patients who are carrying out home treatment.

PART III.

Sanitary Circumstances of the District.

Water Supply.

In quality the water supply of the various parishes is usually excellent. The following districts are supplied by the Council's own Waterworks:—Tywardreath, St. Blazey, Par, Bugle, Penwithick, and the Mount Charles Special Drainage area.

TYWARDREATH AND ST. BLAZEY.—To alleviate the shortage in these districts in a very dry season steps are being taken to increase the supply by acquiring an excellent spring at Polharmon, in addition to augmenting the Carbis and Innis Moor sources.

BUGLE.—A scheme has been prepared here but is not yet carried out.

PENWITHICK AND MOUNT CHARLES SPECIAL DRAINAGE AREA.—The shortage of water in dry seasons in this area is likely to be considerably accentuated by the erection of the new Council Houses numbering between 70 and 80 in addition to private buildings. To meet the additional requirements there is a proposal to obtain an increased supply to Carclaze reservoir by pumping water from Minear Pit, a distance of some 1000 feet, which should meet the extra demand.

ST. STEPHENS.—The great need for a water supply to St. Stephens Parish, which includes St. Stephens Churchtown, High Street, and Lanjeth has been emphasised on many occasions by each of your M.O.H's. Various schemes have been mooted from time to time, but have not

materialised. This is chiefly owing to the water supplies being needed by the various clayworks in the neighbourhood, and available sources being too low for bringing in supplies by gravitation to points required.

ST. DENNIS is also in urgent need and here expense has been the obstacle.

MEVAGISSEY AND PENTEWAN.—Schemes for the bettering of the supply have been under consideration, but as in other cases nothing has been done on account of the cost.

During the year the following analyses have been made :—

MELEDOOR SCHOOLS.—On account of the outbreak of diphtheria and sore throats a sample of the water in the school pump was analysed and pronounced quite unfit for drinking purposes.

WHITEMOOR.—A stream at Whitemoor, suggested as a possible source for a St. Dennis water supply was found to be fit for all purposes.

Rivers and Streams Pollutions and Drainage.

It is a common practise to find in this district, that streams take on the functions of drains. This is especially noticeable at St. Blazey, Par, Mevagissey, and Bugle. No attempt has been made to cover in these small streams, and in consequence complaints are very frequent, more so during the warm months. Some effort is made to keep clean these open sewers, but it is perfectly impossible to prevent a real nuisance. There is no doubt that had it not been for the war this state of things would have been removed ere this. Schemes of drainage have been prepared for these places, but the question of funds has been the source of the delay, as prices are so prohibitive.

St. Blazey perhaps, more than any other place, is in urgent need of a proper drainage system, and in view of the fact that 88 new Council houses will soon be erected, it is a question whether it would not be wiser for the Council to proceed at once with a complete drainage system, rather than spend a considerable sum on a drainage for their new houses only (which of course will not be allowed to drain into the leats), and then later find they have to be connected with a new system for the rest of the district

BUGLE. Plans for a new drainage scheme were prepared some time ago, but up to the present the Council has not seen its way to start the undertaking; difficulties with landowners being the great cause of delay in this particular case.

Schemes for Grampound, Roche, St. Dennis, Nanpean, Foxhole, Carpella, St. Stephens have all been mooted, but none matured.

Closet Accommodation.

In districts where there is no water system, the closets are of the pail and midden system, but even where there is a water and sewage system, there are closets which have not been converted, partly due to the fact that the Council have adopted the Public Health Act (Amendment Act 1917), which compels the Council to bear the whole cost of conversion of the pail system and half the cost in all other cases.

Five closets were converted into water closets in 1920.

Scavenging.

In the Mount Charles Special Drainage area, St. Blazey, Tywardreath, Bugle, Roche, St. Dennis, Nanpean, St. Stephens Churchtown, Mevagissey, and Gorran, the refuse is collected

by men who are appointed as scavengers by the Council, and the work on the whole is effectively done. Pentewan is under the disadvantage of being without a scavenger, in spite of frequent advertisings. The village of Porthpean has been added to the list this year, where scavenging is carried out

Slaughterhouses

Are on the whole satisfactory, but white-washing might be made more use of in a large number of cases. There are several slaughterhouses which would never be permitted to be built at the present time, for instance some are situated in main streets of villages, close to dwellinghouses, but being well kept time has sanctioned their existence. The tables for cutting up meat are almost without exception unsatisfactory, instead of being composed of one piece of wood, lengths are joined together, often roughly, causing crevices or ruts, and however clean the owner tries to keep his table it is impossible to prevent meat decomposing in these ruts. Very few butchers possess stone slabs to add to the cleanliness of their slaughterhouse.

I was called to see one carcase, which I found to be tuberculous. I gave orders for its burial. The meat that I have inspected at various times has been good.

Dairies.

The Dairies in the district vary, some are excellent, others indifferent. Apparently some owners consider that any place will do to store milk and cream. Cases have come to my notice where the narrow passage leading from the front door and the back parlour have been thought good

enough for a dairy. There must be a large number of people who sell milk who are not registered. This matter is being investigated by the Clerk.

Tents and Vans.

These on Par Moor were inspected and the Sanitary arrangements were found to be practically absent and overcrowding was present. Some of the tents and surroundings were well kept and others extremely dirty. There were ten encampments inhabited by about fifty people of all ages. Apparently there is no authority to compel these people to do anything, the Council having no bye-laws for van or tent dwellers. Bye-laws are to be drawn up shortly.

Housing.

The Rural District Council has energetically attacked the question of the erection of houses for the working classes. It has set itself out to build 600 houses; up to the present 19 sites have been acquired in various parts of the district, upon which 330 will be erected. During 1920 work was commenced on 124 of these. Great delay was experienced due to lack of skilled labour and to scarcity of some materials.

The 330 houses are apportioned as follows :—

| | | | | | | | |
|-----------------------|-----|-------------|-----|------------|-----|-----|----|
| Tywardreath (Highway) | 4 | Foxhole | ... | ... | 20 | | |
| Polkyth | ... | ... | 8 | Whitepit | ... | ... | 42 |
| Tywardreath (Village) | 6 | Ruddle Moor | ... | ... | 8 | | |
| Rescorla | ... | ... | 8 | Stenalees | ... | ... | 8 |
| Stepaside | ... | ... | 8 | Penwithick | ... | ... | 8 |
| Slades | ... | ... | 70 | Roche | ... | ... | 24 |
| Trenovissick | ... | ... | 46 | Trewoon | ... | ... | 18 |
| St. Blazey | ... | ... | 42 | Mevagissey | ... | ... | 10 |

The housing needs of St. Stephens is evidently not fully met by the few houses being erected at Stepside. St. Stephens is situated in a large clay mining area and serious thoughts should be given to increasing the number.

PART IV.

ADMINISTRATION.

1.—During 1920 the Rural district has been under the great disadvantage of having had several changes as regards the Sanitary Inspectors. Mr. Welch of the eastern area resigned and was succeeded by Mr. Green in July, and in August Mr. Harvey having obtained a new post also resigned. The work of the whole district was then carried on by Mr. Green alone, until Mr. Simcox was appointed to the Western half in December. As pointed out by previous Medical Officers of Health, the facilities for travelling for the Sanitary Inspectors are very inadequate, much valuable time is lost, and the large and hilly districts make their work extremely arduous. Much better results would be obtained if the Council could see their way to provide motor cycles.

Bacteriological Work.

2.— In this department practitioners are supplied with the necessary outfits for obtaining the

specimens of suspected infectious diseases. When required diphtheretic anti-toxin is also available.

The following examinations were made during the year 1920 :

| | Positive | Negative | Total |
|-----------------------------------|--------------------|----------|-------|
| Swabs for B. Diphtheria 1st Exam. | 12 | 9 | 21 |
| Subsequent Exam. | 2 | 5 | 7 |
| Sputum for B. Tuberculosis | 1 | 9 | 10 |
| Nasal Swab for Neningococci | 0 | 1 | 1 |
| Film for Gonococci | 0 | 1 | 1 |
| | | | — |
| | Total Examinations | | 40 |

The following is a Summary of work done by the M.O.H. during 1920, and reported on to the Council :

OVERCROWDING. — Seven houses were visited in which overcrowding was present, and 10 houses which were extremely dirty and so therefore detrimental to health.

WATER. — Contaminated water at Meledor School. Insufficiency of water at Highfield Avenue. Insufficient water at Polgooth due to small reservoir. (A larger one has now been built). Defective pumps at Belowda, Roche, and Polmassick. Defective water supply to cottages at Nantallon. Gauging of various streams for the proposed water supply for St. Dennis and analyses obtained.

DRAINAGE.—Complaints were received and investigated at Roche, Meledor Schools, Stenalees, Tregonissey, Cliza Hill, Trewoon, Mount Charles, Pentewan, Gorran Schools, St. Blazey Gate, St. Blazey Leat, St. Blazey Fore Street, and Grampound.

CLOSET ACCOMMODATION. — Defective conditions were reported on at Tregonissey, Polkyth, Roche, Trevasgus, Mevagissey, and Bugle.

DAMP HOUSES.—Six houses were inspected and improvements ordered.

SCAVENGING.—Porthpean was visited and report made. A scavenger has now been appointed.

COMPLAINTS.—Complaints from Charles-town and Mevagissey of fowl runs. Nuisances due to piggeries in too close proximity to dwelling-houses. Deposit of dead fish in Pentewan quay. Complaints of improper disposal of refuse at different places were all dealt with.

TUBERCULOSIS.—The prevalence of Tuberculosis at Trewoon was thoroughly investigated.

SCARLET FEVER.—A case of Scarlet Fever occurred in London after a visit to this district. The M.O.H. was informed that there was no evidence that the disease was contracted here.

BUILDINGS.--Gipsy Encampments, Slaughter-houses, Dairies, &c., were inspected.

Summary of Work carried out by the Sanitary Inspectors for the year ending 31st December 1920.

| | Western Area. | Eastern Area. | Total |
|--|------------------|------------------|-------|
| Informal Notices issued ... | 24 | 73 | 97 |
| Statutory Notices issued ... | 6 | 29 | 35 |
| Dirty Houses Cleansed, etc. ... | 6 | 15 | 21 |
| Overcrowding abated ... | 3 | 3 | 6 |
| Slaughter-houses inspected ... | 8 | 6 | 14 |
| Tents and Vans inspected ... | 5 | 8 | 13 |
| Workshops inspected ... | 7 | 7 | 14 |
| Dairies and Cowsheds inspected ... | 13 | 7 | 20 |
| Drains cleansed and repaired ... | 12 | 34 | 46 |
| Closet accommodation provided ... | 3 | 7 | 10 |
| Nuisance from keeping animals, etc. — | | 12 | 12 |
| Closets, repaired, converted, etc. ... | 6 | 10 | 16 |
| Houses disinfected ... | 62 | 69 | 131 |

Housing, Town Planning, etc., Act, 1909.

| | | | |
|--|-----|-----|-----|
| Houses inspected ... | 62 | 179 | 241 |
| Number of Inspections including re-visits ... | 192 | 233 | 425 |
| Houses found defective ... | 26 | 35 | 61 |
| Informal notices issued ... | 26 | 35 | 61 |
| Statutory notices issued ... | 5 | 10 | 15 |
| Closing Orders made by Council ... | 3 | — | 3 |

The record of work carried out between August and December 1920 is included in the Eastern Area Report.

APPENDICES.

Housing Conditions Statistics for the year ended 31st December 1920.

1.—GENERAL,

| | | | | |
|----|--|-----|-----|--------|
| 1. | Estimated Population | ... | ... | 33,871 |
| 2. | General Death-rate | ... | ... | 10·7 |
| 3. | Death-rate from Tuberculosis | ... | ... | ·97 |
| 4. | Infantile Mortality | ... | ... | 52·7 |
| 5. | Number of Dwelling-houses of all classes | ... | | 7,912 |
| 6. | Number of Working-class Dwelling-houses | ... | | 7,500 |
| 7. | Number of New Working-class Houses erected | | | 19 |

2.—UNFIT DWELLING-HOUSES.

1. INSPECTION.

| | | | | |
|------|--|-----|-----|-----|
| (1.) | Total number of Dwelling-houses inspected for housing defects (under P.H. or H.A.) | ... | | 247 |
| (2.) | Number of Dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations 1920 | ... | | 430 |
| (3.) | Number of Dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation | ... | | Nil |
| (4.) | Number of Dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation | ... | ... | 61 |



TABLE I.
Vital Statistics of whole District during 1920.

| YEAR. | Population | Births | | Total Deaths Registered in the District. | | Transferable Deaths, of Non-residents registered in the District. | | of Residents not registered in the District. | | Nett Deaths belonging to District | | |
|-------------|-----------------|------------|-------------|--|-------------|--|-----------|--|-----------------------|-----------------------------------|-------------|--|
| | | | | | | | | | | | | |
| | | Number | Rate | Number | Rate | Number | Rate | Number | Rate per 1,000 Births | Under 1 year of age | At all Ages | |
| | | | | | | | | | | | | |
| 1919 | 32,574 | 495 | 14·5 | 343 | 10·5 | 9 | 41 | 45 | 90 | 375 | 11·5 | |
| 1920 | 33,871 | 778 | 22·9 | 365 | 10·7 | 4 | 36 | 39 | 52·7 | 397 | 11·7 | |
| 1919 | England & Wales | ... | 18·5 | ... | ... | ... | ... | ... | 89 | ... | 13·8 | |
| 1920 | " | ... | 25·4 | ... | ... | ... | ... | ... | 80 | ... | 12·4 | |

Name _____ Date _____
 Class _____

| 1000 | 9000 | 8000 | 7000 | 6000 | 5000 | 4000 | 3000 | 2000 | 1000 | 0000 |
|------|------|------|------|------|------|------|------|------|------|------|
| 1000 | 9000 | 8000 | 7000 | 6000 | 5000 | 4000 | 3000 | 2000 | 1000 | 0000 |

| 1000 | 9000 | 8000 | 7000 | 6000 | 5000 | 4000 | 3000 | 2000 | 1000 | 0000 |
|------|------|------|------|------|------|------|------|------|------|------|
| 1000 | 9000 | 8000 | 7000 | 6000 | 5000 | 4000 | 3000 | 2000 | 1000 | 0000 |

Name _____ Date _____
 Class _____

1000 9000 8000 7000 6000 5000 4000 3000 2000 1000 0000

1000 9000 8000 7000 6000 5000 4000 3000 2000 1000 0000

TABLE II.
Cases of Infectious Diseases notified during the year 1920.

| NOTIFIABLE DISEASE. | NUMBER OF CASES NOTIFIED. | | | | | | | | TOTAL CASES NOTIFIED IN EACH PARISH. | | | | | | | | | | | | |
|------------------------------------|---------------------------|----------------|---------------|----------------|-----------------|-----------------|-----------------|----------------|--------------------------------------|------------|--------------|--------|-----------|------------|-------|------------|---------|-----------|-----------|-------------|---------------|
| | At all Ages. | At Ages—Years. | | | | | | | ST. AUSTELL RURAL | ST. BLAZEY | ST. STEPHENS | CREED. | GRAMPOUND | MEVAGISSEY | ROCHE | ST. DENNIS | ST. EWE | ST. GORAN | ST. MEWAN | TYWARDREATH | ST. SAMPSON'S |
| | | Under 1 year | 1 and under 5 | 5 and under 15 | 15 and under 25 | 25 and under 45 | 45 and under 65 | 65 and upwards | | | | | | | | | | | | | |
| Erysipelas | 8 | ..... | ..... | 2 | ..... | 3 | 3 | ..... | 3 | 1 | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Diphtheria | 56 | ..... | 5 | 32 | 11 | 8 | ..... | ..... | 28 | 2 | 10 | ... | ... | 5 | 2 | ... | 1 | 6 | 1 | ... | 1 |
| Membranous Croup | 0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Scarlet Fever | 46 | ..... | 1 | 37 | 4 | 4 | ..... | ..... | 13 | 1 | 2 | ... | ... | 2 | 4 | 14 | ... | ... | 8 | ... | 2 |
| Tuberculosis (Pulmonary) | 19 | ..... | ..... | 1 | 12 | 4 | 2 | ..... | 7 | 1 | 4 | ... | ... | ... | 3 | 1 | ... | ... | 3 | ... | ... |
| Other forms of Tuberculosis | 3 | ..... | ..... | ..... | 2 | 1 | ..... | ..... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... |
| Encephalitis Lethargica | 1 | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Poliomyelitis | 1 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Polio Encephalitis | 0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Typhoid Fever | 1 | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Malaria | 2 | ..... | ..... | ..... | ..... | 2 | ..... | ..... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| Pneumonia | 0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Opthalmia Neonatorum | 4 | 4 | ..... | ..... | ..... | ..... | ..... | ..... | 2 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Puerperal Fever | 2 | ..... | ..... | ..... | 1 | 1 | ..... | ..... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Septicæmia | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| TOTALS | 144 | 4 | 7 | 72 | 30 | 24 | 6 | 1 | 55 | 7 | 23 | — | — | 8 | 10 | 16 | 1 | 6 | 12 | 3 | 3 |

Table 1

Table 1 shows the results of the experiment. The data is presented in the following table.

| Experiment 1 | | Experiment 2 | | Experiment 3 | |
|--------------|--------------|--------------|--------------|--------------|--------------|
| Time (min) | Distance (m) | Time (min) | Distance (m) | Time (min) | Distance (m) |
| 10 | 100 | 10 | 100 | 10 | 100 |
| 20 | 200 | 20 | 200 | 20 | 200 |
| 30 | 300 | 30 | 300 | 30 | 300 |
| 40 | 400 | 40 | 400 | 40 | 400 |
| 50 | 500 | 50 | 500 | 50 | 500 |
| 60 | 600 | 60 | 600 | 60 | 600 |
| 70 | 700 | 70 | 700 | 70 | 700 |
| 80 | 800 | 80 | 800 | 80 | 800 |
| 90 | 900 | 90 | 900 | 90 | 900 |
| 100 | 1000 | 100 | 1000 | 100 | 1000 |
| 110 | 1100 | 110 | 1100 | 110 | 1100 |
| 120 | 1200 | 120 | 1200 | 120 | 1200 |
| 130 | 1300 | 130 | 1300 | 130 | 1300 |
| 140 | 1400 | 140 | 1400 | 140 | 1400 |
| 150 | 1500 | 150 | 1500 | 150 | 1500 |
| 160 | 1600 | 160 | 1600 | 160 | 1600 |
| 170 | 1700 | 170 | 1700 | 170 | 1700 |
| 180 | 1800 | 180 | 1800 | 180 | 1800 |
| 190 | 1900 | 190 | 1900 | 190 | 1900 |
| 200 | 2000 | 200 | 2000 | 200 | 2000 |
| 210 | 2100 | 210 | 2100 | 210 | 2100 |
| 220 | 2200 | 220 | 2200 | 220 | 2200 |
| 230 | 2300 | 230 | 2300 | 230 | 2300 |
| 240 | 2400 | 240 | 2400 | 240 | 2400 |
| 250 | 2500 | 250 | 2500 | 250 | 2500 |
| 260 | 2600 | 260 | 2600 | 260 | 2600 |
| 270 | 2700 | 270 | 2700 | 270 | 2700 |
| 280 | 2800 | 280 | 2800 | 280 | 2800 |
| 290 | 2900 | 290 | 2900 | 290 | 2900 |
| 300 | 3000 | 300 | 3000 | 300 | 3000 |
| 310 | 3100 | 310 | 3100 | 310 | 3100 |
| 320 | 3200 | 320 | 3200 | 320 | 3200 |
| 330 | 3300 | 330 | 3300 | 330 | 3300 |
| 340 | 3400 | 340 | 3400 | 340 | 3400 |
| 350 | 3500 | 350 | 3500 | 350 | 3500 |
| 360 | 3600 | 360 | 3600 | 360 | 3600 |
| 370 | 3700 | 370 | 3700 | 370 | 3700 |
| 380 | 3800 | 380 | 3800 | 380 | 3800 |
| 390 | 3900 | 390 | 3900 | 390 | 3900 |
| 400 | 4000 | 400 | 4000 | 400 | 4000 |
| 410 | 4100 | 410 | 4100 | 410 | 4100 |
| 420 | 4200 | 420 | 4200 | 420 | 4200 |
| 430 | 4300 | 430 | 4300 | 430 | 4300 |
| 440 | 4400 | 440 | 4400 | 440 | 4400 |
| 450 | 4500 | 450 | 4500 | 450 | 4500 |
| 460 | 4600 | 460 | 4600 | 460 | 4600 |
| 470 | 4700 | 470 | 4700 | 470 | 4700 |
| 480 | 4800 | 480 | 4800 | 480 | 4800 |
| 490 | 4900 | 490 | 4900 | 490 | 4900 |
| 500 | 5000 | 500 | 5000 | 500 | 5000 |
| 510 | 5100 | 510 | 5100 | 510 | 5100 |
| 520 | 5200 | 520 | 5200 | 520 | 5200 |
| 530 | 5300 | 530 | 5300 | 530 | 5300 |
| 540 | 5400 | 540 | 5400 | 540 | 5400 |
| 550 | 5500 | 550 | 5500 | 550 | 5500 |
| 560 | 5600 | 560 | 5600 | 560 | 5600 |
| 570 | 5700 | 570 | 5700 | 570 | 5700 |
| 580 | 5800 | 580 | 5800 | 580 | 5800 |
| 590 | 5900 | 590 | 5900 | 590 | 5900 |
| 600 | 6000 | 600 | 6000 | 600 | 6000 |
| 610 | 6100 | 610 | 6100 | 610 | 6100 |
| 620 | 6200 | 620 | 6200 | 620 | 6200 |
| 630 | 6300 | 630 | 6300 | 630 | 6300 |
| 640 | 6400 | 640 | 6400 | 640 | 6400 |
| 650 | 6500 | 650 | 6500 | 650 | 6500 |
| 660 | 6600 | 660 | 6600 | 660 | 6600 |
| 670 | 6700 | 670 | 6700 | 670 | 6700 |
| 680 | 6800 | 680 | 6800 | 680 | 6800 |
| 690 | 6900 | 690 | 6900 | 690 | 6900 |
| 700 | 7000 | 700 | 7000 | 700 | 7000 |
| 710 | 7100 | 710 | 7100 | 710 | 7100 |
| 720 | 7200 | 720 | 7200 | 720 | 7200 |
| 730 | 7300 | 730 | 7300 | 730 | 7300 |
| 740 | 7400 | 740 | 7400 | 740 | 7400 |
| 750 | 7500 | 750 | 7500 | 750 | 7500 |
| 760 | 7600 | 760 | 7600 | 760 | 7600 |
| 770 | 7700 | 770 | 7700 | 770 | 7700 |
| 780 | 7800 | 780 | 7800 | 780 | 7800 |
| 790 | 7900 | 790 | 7900 | 790 | 7900 |
| 800 | 8000 | 800 | 8000 | 800 | 8000 |
| 810 | 8100 | 810 | 8100 | 810 | 8100 |
| 820 | 8200 | 820 | 8200 | 820 | 8200 |
| 830 | 8300 | 830 | 8300 | 830 | 8300 |
| 840 | 8400 | 840 | 8400 | 840 | 8400 |
| 850 | 8500 | 850 | 8500 | 850 | 8500 |
| 860 | 8600 | 860 | 8600 | 860 | 8600 |
| 870 | 8700 | 870 | 8700 | 870 | 8700 |
| 880 | 8800 | 880 | 8800 | 880 | 8800 |
| 890 | 8900 | 890 | 8900 | 890 | 8900 |
| 900 | 9000 | 900 | 9000 | 900 | 9000 |
| 910 | 9100 | 910 | 9100 | 910 | 9100 |
| 920 | 9200 | 920 | 9200 | 920 | 9200 |
| 930 | 9300 | 930 | 9300 | 930 | 9300 |
| 940 | 9400 | 940 | 9400 | 940 | 9400 |
| 950 | 9500 | 950 | 9500 | 950 | 9500 |
| 960 | 9600 | 960 | 9600 | 960 | 9600 |
| 970 | 9700 | 970 | 9700 | 970 | 9700 |
| 980 | 9800 | 980 | 9800 | 980 | 9800 |
| 990 | 9900 | 990 | 9900 | 990 | 9900 |
| 1000 | 10000 | 1000 | 10000 | 1000 | 10000 |

TABLE III.

Causes of, and Ages at Death, during the year 1920.

ST. AUSTELL RURAL DISTRICT.

| CAUSES OF DEATH. | All Causes. } Certified ... Uncertified ... | All Ages | Under 1 year. | 1 and under 2 years | 2 and under 5 years | 5 and under 15 years | 15 and under 25 years | 25 and under 45 years | 45 and under 65 years | 65 and upward |
|--|---|----------|---------------|---------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|---------------|
| | | | | | | | | | | |
| All Causes. | | 397 | 41 | 7 | 5 | 13 | 31 | 40 | 95 | 165 |
| 1 Enteric Fever | ... | 0 | ... | ... | ... | ... | ... | ... | ... | ... |
| 2 Small Pox | ... | 0 | ... | ... | ... | ... | ... | ... | ... | ... |
| 3 Measles | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... |
| 4 Scarlet Fever | ... | 0 | ... | ... | ... | ... | ... | ... | ... | ... |
| 5 Whooping Cough | ... | 0 | ... | ... | ... | ... | ... | ... | ... | ... |
| 6 Diphtheria and Croup | ... | 5 | ... | ... | 1 | 4 | ... | ... | ... | ... |
| 7 Influenza | ... | 3 | 1 | ... | ... | ... | 1 | ... | ... | 1 |
| 8 Erysipelas | ... | 0 | ... | ... | ... | ... | ... | ... | ... | ... |
| 9 Phthisis | ... | 32 | 1 | ... | ... | ... | 11 | 12 | 6 | 2 |
| 10 Tuberculous Meningitis | ... | 4 | 2 | ... | ... | ... | ... | 2 | ... | ... |
| 11 Other Tuberculous Diseases | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... |
| 12 Cancer, Malignant Disease | ... | 33 | 1 | ... | ... | ... | 3 | 4 | 13 | 12 |
| 13 Rheumatic Fever | ... | 4 | ... | ... | ... | 1 | 1 | ... | 1 | 1 |
| 14 Meningitis | ... | 6 | 1 | ... | ... | ... | 1 | 2 | 2 | ... |
| 15 Organic Heart Disease | ... | 58 | ... | 1 | ... | ... | 4 | 5 | 20 | 28 |
| 16 Bronchitis | ... | 34 | 7 | 1 | 1 | 1 | ... | ... | 10 | 14 |
| 17 Pneumonia | ... | 13 | 2 | 3 | ... | ... | ... | ... | 1 | 7 |
| 18 Other diseases of respiratory organs | ... | 13 | ... | ... | 1 | 1 | ... | 3 | 2 | 6 |
| 19 Diarrhoea and Enteritis | ... | 3 | ... | 1 | ... | ... | ... | 1 | 1 | ... |
| 20 Appendicitis and Typhilitis | ... | 0 | ... | ... | ... | ... | ... | ... | ... | ... |
| 21 Cirrhosis of Liver | ... | 0 | ... | ... | ... | ... | ... | ... | ... | ... |
| 22 Nephritis and Bright's Disease | ... | 16 | ... | ... | ... | 1 | ... | 4 | 9 | 2 |
| 23 Puerperal Fever | ... | 0 | ... | ... | ... | ... | ... | ... | ... | ... |
| 24 Other accidents and diseases of Pregnancy and Parturition | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... |
| 25 Congenital Debility and Malformation, including Premature Birth | ... | 20 | 20 | ... | ... | ... | ... | ... | ... | ... |
| 26 Violent Deaths, excluding Suicide | ... | 13 | ... | ... | ... | 2 | 6 | ... | 3 | 2 |
| 27 Suicide | ... | 3 | ... | ... | ... | ... | 1 | ... | 2 | ... |
| 28 Other Defined Diseases | ... | 123 | 3 | ... | 2 | 3 | 3 | 5 | 23 | 84 |
| 29 Diseases ill-defined or unknown | ... | 11 | 2 | ... | ... | ... | ... | 1 | 2 | 6 |
| TOTALS | | 397 | 41 | 7 | 5 | 13 | 31 | 40 | 95 | 165 |

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TABLE IV.
INFANT MORTALITY.
ST. AUSTELL RURAL DISTRICT.

Net Deaths from stated causes at various Ages under 1 year of age 1920.

| CAUSES OF DEATH. | Under 1 week. | 1-2 weeks | 2-3 weeks | 3-4 weeks | Total under 4 weeks | 4 weeks and under 3 months | 3 months and under 6 months | 6 months and under 9 months | 9 months and under 12 months | Total deaths under 1 year. |
|---|---------------------|--------------|--------------|--------------|------------------------------|--|--|--|---|-------------------------------------|
| All Causes. { Certified ... Uncertified ... | 11 | 2 | 1 | 3 | 17 | 12 | 8 | 2 | 2 | 41 |
| Small Pox ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Chicken Pox ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Measles ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 |
| Scarlet Fever ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Whooping Cough... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Diphtheria and Croup ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Erysipelas ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Influenza ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 |
| Tuberculous Meningitis ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 2 |
| Abdominal Tuberculosis ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| Other Tuberculosis Diseases ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Convulsions ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 |
| Laryngitis ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Bronchitis ... | ... | ... | ... | ... | ... | 4 | 3 | 2 | ... | 9 |
| Pneumonia (all forms) ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 |
| Diarrhoea ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Enteritis ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Gastritis ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Syphilis ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Rickets ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Suffocation, overlying ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Injury at Birth ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Atelectasis ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Congenital Malformations ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 2 |
| Premature Birth ... | 6 | 2 | ... | ... | 8 | ... | ... | ... | ... | 8 |
| Atrophy, Debility and Marasmus .. | 2 | ... | 1 | 2 | 5 | 1 | ... | ... | ... | 6 |
| Other Causes ... | 3 | ... | ... | 1 | 4 | 2 | 2 | ... | 1 | 9 |
| TOTALS | 11 | 2 | 1 | 3 | 17 | 12 | 8 | 2 | 2 | 41 |

PROBABILITY

of 1000

PROBABILITY
 IS THE CHANCE OF AN EVENT OCCURRING

PROBABILITY IS THE CHANCE OF AN EVENT OCCURRING

| | | | | |
|----|---------|-------|------|------------|
| 1 | 1/1000 | 0.001 | 0.1% | 1 in 1000 |
| 2 | 2/1000 | 0.002 | 0.2% | 2 in 1000 |
| 3 | 3/1000 | 0.003 | 0.3% | 3 in 1000 |
| 4 | 4/1000 | 0.004 | 0.4% | 4 in 1000 |
| 5 | 5/1000 | 0.005 | 0.5% | 5 in 1000 |
| 6 | 6/1000 | 0.006 | 0.6% | 6 in 1000 |
| 7 | 7/1000 | 0.007 | 0.7% | 7 in 1000 |
| 8 | 8/1000 | 0.008 | 0.8% | 8 in 1000 |
| 9 | 9/1000 | 0.009 | 0.9% | 9 in 1000 |
| 10 | 10/1000 | 0.010 | 1.0% | 10 in 1000 |

TABLE V.
Parishes.

| PARISH. | | | TOTAL DEATHS. |
|------------------|-----|-----|---------------|
| St Austell Rural | ... | ... | 131 |
| St. Stephens | ... | ... | 73 |
| Tywardreath | ... | ... | 40 |
| St. Blazey | ... | ... | 32 |
| Mevagissey | ... | ... | 31 |
| Roche | ... | ... | 21 |
| St. Mewan | ... | ... | 16 |
| St. Dennis | ... | ... | 16 |
| St. Ewe | ... | ... | 14 |
| Gorran | ... | ... | 7 |
| Grampond | ... | ... | 6 |
| Carhayes | ... | ... | 4 |
| St. Sampsons | ... | ... | 4 |
| Creed | ... | ... | 2 |
| TOTAL | | | 397 |

TABLE 2 Estimated

| 1960-1969 | 1970-1979 |
|-----------|-----------|
| 100 | 100 |
| 90 | 90 |
| 80 | 80 |
| 70 | 70 |
| 60 | 60 |
| 50 | 50 |
| 40 | 40 |
| 30 | 30 |
| 20 | 20 |
| 10 | 10 |
| 0 | 0 |
| - | - |
| - | - |